

processing of the printer driver.

BEST MODE FOR CARRYING OUT THE INVENTION

An embodiment of the present invention will be described below with reference to the drawings.

Fig.1 shows a schematic hardware configuration of a system consisting of a printer for status printing and a host computer. Fig. 2 is a schematic diagram showing the invention realized as the printer driver on the operation system on the host computer. Fig. 3 is a schematic diagram of the main composition for printing status information on a printer embodying the invention. In Figs. 2 and 3, the main components are shown as modules (which correspond to the units as elements of the invention).

First, reference is made to Fig. 1 showing the schematic hardware configuration. A host computer 10 includes a CPU 11 for central operation, which can access a ROM 13 and a RAM 14 through a system bus 12. A BIOS or the like is written on the ROM 13. The system bus 12 is connected to a hard disk drive 15 as an eternal storage, a floppy disk drive 16, and a CD-ROM drive 17. The operation system 20 and applications stored in the hard disk drive 15 are transmitted to the RAM 14. The CPU 11 accesses the ROM 13 and the RAM 14 whenever necessary, and implements the software.

A serial communication I/O interface 19a is connected to

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devices such as a keyboard 41 and a mouse 42. The serial communication I/O interface 19a is also connected to a display 18 through a video board, which is not shown. The serial communication I/O interface 19a can be connected in parallel to a printer 30 through a parallel communication I/O interface 19b. The host computer 10 is described as simplified in structure, but may be a personal computer that is general in structure.

Of course, the host computer to which this invention is applied is not limited to a personal computer. The host computer 10 is a desktop computer, but might be a notebook type or the type corresponding to a mobile computing device. The interface between the host computer 10 and the printer 30 need not be limited to the parallel communication I/O interface 19b, but various connections might be available including a serial interface, SCSI and USB connections, and any connection, which may be developed in the future.

Programs are stored in the hard disk drive 15, but might alternatively be stored in the floppy disk 16a or the CD-ROM 17a. If the programs were recorded on the floppy disk 16a or the CD-ROM 17a, the host computer 10 would read them through the floppy disk drive 16 or the CD-ROM drive 17, respectively, and install them in the hard disk drive 15. Then, the programs would be read through the hard disk drive 15 into the RAM 14 to control the host computer 10. The record media might include a magneto-

optical disc. A nonvolatile memory such as a flash card could be used as a semiconductor device. No doubt, even if an external file server is accessed through a modem or a communication circuit to download a program, the memory unit of the server may serve as a record medium.

The printer 30 includes a CPU 31 for central operation, which can access a ROM 33 and a memory 34 through a system bus 32. The memory 34 consists of a status information memory 34a for storing status information data and a buffer memory 34b for storing printing data. The status information memory 34a may be a RAM or an EEPROM. The system bus 32 is connected to a printer controller 35 for controlling the printing drive mechanisms of the printer 30, a switch (SW) 36 for instructing the output initiation of status information, and a parallel communication I/O interface 37. The CPU 31 accesses the ROM 33 and the memory 34 when necessary, executing the predetermined firmware.

The CPU 31 controls the print controller 35 based on the printing data stored in the RAM 33, printing various kinds of printing including the status information data. The CPU 31 acquires the status information data on the printer 30. If the switch 36 is pushed, the CPU communicates with the host computer 10 through the parallel communication I/O interface 37 and outputs the status information data. For printing, only simple firmware is stored in the ROM 33. Since the printer 30 receives